

From: Ronald Rudolph <rrudolph@iot.edu>
Sent: Thursday, August 27, 2015 10:06 PM
To: DIR OSHSB
Subject: Helping workers avoid accidental electrocutions.

I'm not quite sure who I need to send this request to, but the OSHSB department seems most logical for my inquiry.

To make a long story short, I have now had a cousin and a grandfather of one of my students both electrocuted and killed using an aerial or boom lift to trim trees in the last 6 years.

Yes this was accidental that they both came in contact with the power lines, but I really think this terrible problem and other situations where workers get unknowingly close to high voltage lines can be avoided by using guidelines you have set forth on high voltage electrical safety distances and a very simple device, an AC Gauss Meter.

AC electricity as you know has a way of letting us know we are getting close by means of detecting it's magnetic field, think of it as a built-in warning system. AC does all the work and will let us know when we are close just by equipping a simple AC Gauss Meter on the body or any type of equipment that might come in contact with high voltage sources during normal working conditions.

You have set forth this chart:

NFPA 70E Table - Approach Boundaries to Live Parts for Shock Protec (All dimensions are distance from live parts to employee)				
(1)	(2)	(3)	(4)	
Nominal System Voltage Range, Phase to Phase	Limited Approach Boundary		Restricted Approach Boundary; Includes Inadvertent Movement Adder	Pro
	Exposed Movable Conductor	Exposed Fixed Circuit Part		
0 to 50	Not Specified	Not Specified	Not Specified	
51 to 300	10 ft 0 in.	3 ft 6 in.	Avoid contact	
301 to 750	10 ft 0 in.	3 ft 6 in.	1 ft 0 in.	
751 to 15 kV	10 ft 0 in.	5 ft 0 in.	2 ft 2 in.	
15.1kV to 36kV	10 ft 0 in.	6 ft 0 in.	2 ft 7 in.	
36.1kV to 46 kV	10 ft 0 in.	8 ft 0 in.	2 ft 9 in.	
46.1kV to 72.5kV	10 ft 0 in.	8 ft 0 in.	3 ft 3 in.	
72.6kV to 121kV	10 ft 8 in.	8 ft 0 in.	3 ft 5 in.	
138kV to 145kV	11 ft 0 in.	10 ft 0 in.	3 ft 7 in.	
161kV to 169kV	11 ft 8 in.	11 ft 8 in.	4 ft 0 in.	
230kV to 242kV	13 ft 0 in.	13 ft 0 in.	5 ft 3 in.	
345kV to 362kV	15 ft 4 in.	15 ft 4 in.	8 ft 6 in.	
500kV to 550kV	19 ft 0 in.	19 ft 0 in.	11 ft 3 in.	
765kV to 800kV	23 ft 9 in.	23 ft 9 in.	14 ft 11 in.	

All that has to be done is calibrate an AC Gauss Meter to flash, or sound off when either a worker wearing this meter or the equipment like a back hoe is retrofitted properly and this would at least *warn* them that impending danger is close, even if they can't see it.

Quoting an older article from ECMWEB.COM, and I know this is on a national level, but if California can make a change for the better, maybe the rest of the nation could follow.

"Between 2003 and 2007, 28,401 workers died while on the job. Contact with some form of electric current was the seventh leading cause of occupational fatalities during this period, accounting for 1,213 work-related fatalities. Another 13,150 workers were injured so severely from these electrical accidents that their injuries required time off from work."

Thanks for your time, and maybe this has already been thought of, but if it hasn't hopefully we might see workers saved from severe bodily harm or even death in some cases in our near future.

Sincerely,

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IMAT and HVAC introductory Education